What is claimed is:

1. A method of manufacturing a high-strength aluminum alloy extruded product excelling in corrosion resistance and stress corrosion cracking resistance, the method comprising extruding a billet of an aluminum alloy comprising (hereinafter, all compositional percentages are by weight), 0.5% to 1.5% of Si, 0.9% to 1.6% of Mg, 0.8% to 2.5% of Cu, while satisfying the following equations (1), (2), (3), and (4),

$$3 \leq Si\% + Mg\% + Cu\% \leq 4 \quad (1)$$

$$Mg\% \leq 1.7 \times Si\% \quad (2)$$

$$Mg\% + Si\% \leq 2.7 \quad (3)$$

$$Cu\%/2 \leq Mg\% \leq (Cu\%/2) + 0.6 \quad (4)$$

and further comprising 0.5% to 1.2% of Mn, with the balance being Al and unavoidable impurities, into a solid product by using a solid die in which a bearing length (L) is 0.5 mm or more and the bearing length (L) and a thickness (T) of the solid product to be extruded have a relationship defined by L ≤ 5T, thereby obtaining the solid product in which a fibrous structure accounts for 60% or more in area-fraction of the cross-sectional structure of the solid product.

2. The method of manufacturing a high-strength aluminum alloy extruded product excelling in corrosion resistance and stress corrosion cracking resistance according to claim 1, wherein a flow guide is provided at a front of the solid die,

an inner circumferential surface of a guide hole of the flow guide being separated from an outer circumferential surface of an orifice which is continuous with the bearing of the solid die at a distance of 5 mm or more, and the thickness of the flow guide being 5% to 25% of the diameter of the billet.

3. A method of manufacturing a high-strength aluminum alloy extruded product excelling in corrosion resistance and stress corrosion cracking resistance, the method comprising extruding a billet of the aluminum alloy as defined in claim 1 into a hollow product by using a porthole die or a bridge die in which a ratio of the flow speed of the aluminum alloy in a non-joining section to the flow speed of the aluminum alloy in a joining section in a chamber, where the billet reunites after entering a port section of the die in divided flows and subsequently encircling a mandrel, is controlled at 1.5 or less, thereby obtaining the hollow product in which a fibrous structure accounts for 60% or more in area-fraction of the cross-sectional structure of the hollow product.

4. The method of manufacturing a high-strength aluminum alloy extruded product excelling in corrosion resistance and stress corrosion cracking resistance according to any of claims 1 to 3, wherein the aluminum alloy further comprises at least one of 0.02% to 0.4% of Cr, 0.03% to 0.2% of Zr, 0.03% to 0.2% of V, and 0.03% to 2.0% of Zn.

5. The method of manufacturing a high-strength aluminum alloy extruded product excelling in corrosion resistance and stress corrosion cracking resistance according to any of claims 1 to 4, the method comprising a homogenization step wherein a billet of the aluminum alloy is homogenized at 450°C or more and cooled at an average cooling rate of 25°C/h or more from the homogenization temperature to at least 250°C, an extrusion step wherein the homogenized billet of the aluminum alloy is extruded at a temperature of 450°C or more, a press quenching step wherein the extruded product is cooled to a temperature of 100°C or less at a cooling rate of 10°C/sec or more in a state in which the surface temperature of the extruded product immediately after the extrusion is maintained at 450°C or more, or a quenching step wherein the extruded product is subjected to a solution heat treatment at a temperature of 450°C or more and cooled to a temperature of 100°C or less at a cooling rate of 10°C/sec or more, and an aging step wherein the quenched product is heated at a temperature of 150°C to 200°C for 2 to 24 hours.